

## **Cube Game**

### **Who's With Whom?**

#### **Objective:**

Match three representations of a linear growing pattern in the fewest number of rolls.

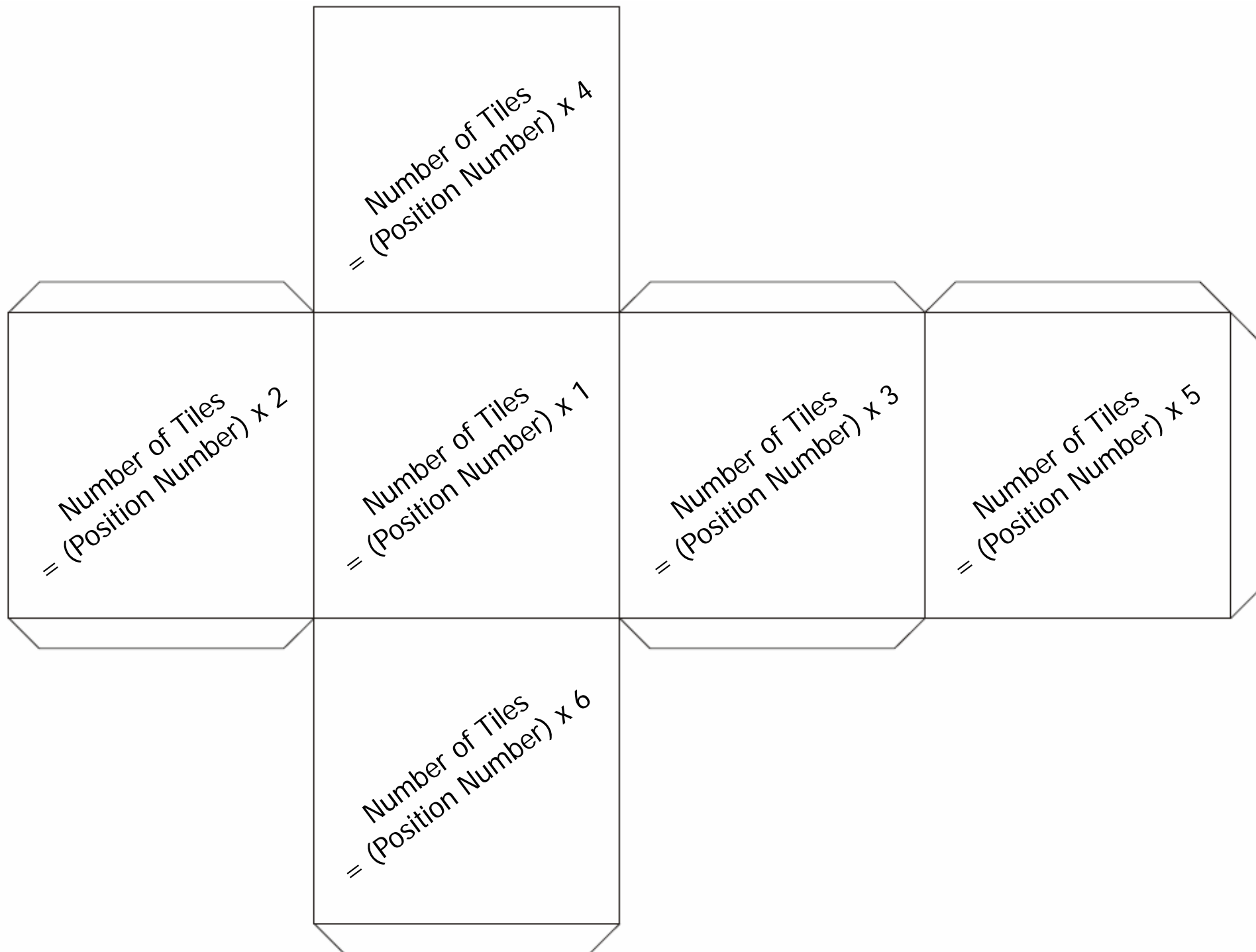
#### **Directions:**

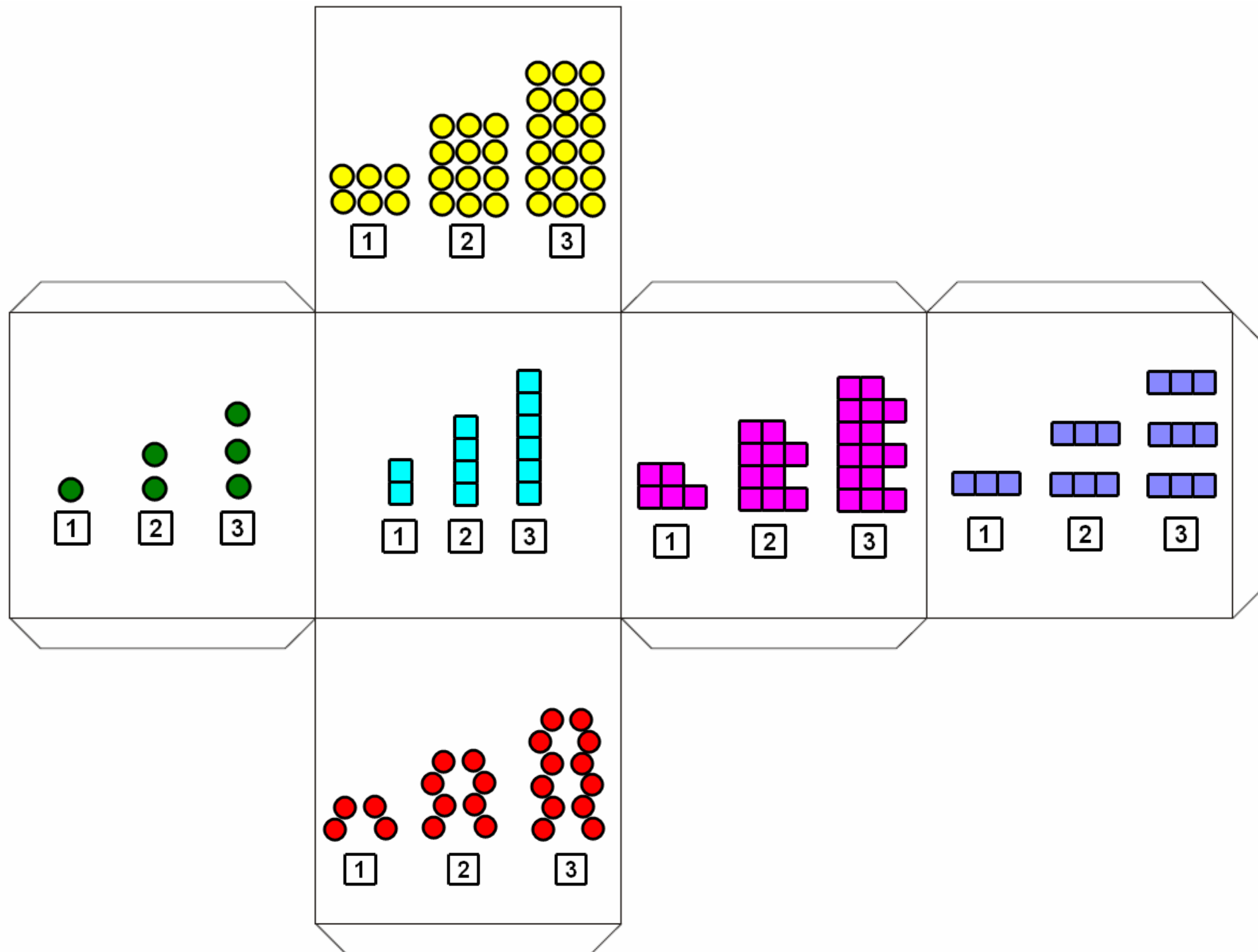
1. Print the net for each cube onto card stock then assemble the three cubes.
2. Player A rolls all three cubes. If the top faces of the cubes represent the same linear growing pattern, Player A wins. Otherwise, Player A selects one of the three cubes and puts it to the side. The top face of this cube is the targeted pattern.
3. Player B selects one of the two remaining cubes and rolls it until its top face has a representation of the targeted pattern. The number of rolls it takes to do this is Player B's score.
4. Player A rolls the remaining cube until its top face has a representation of the targeted pattern. If Player A takes fewer rolls than Player B (from step 3) then Player A wins.

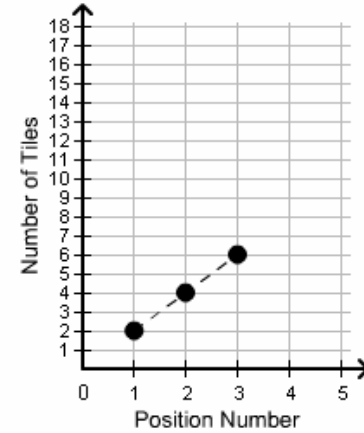
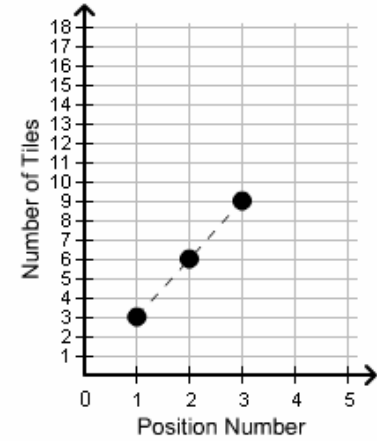
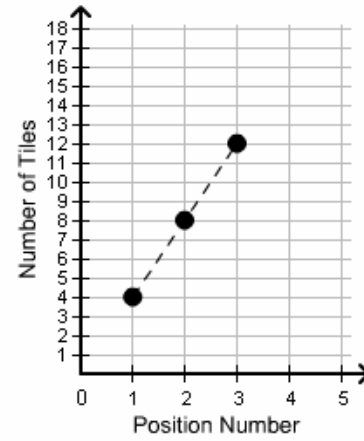
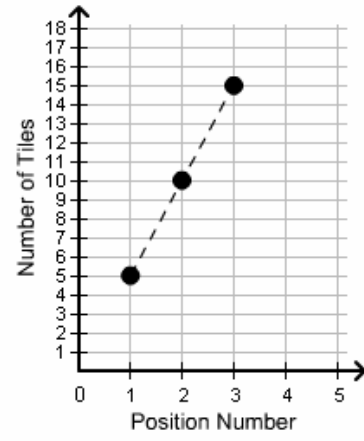
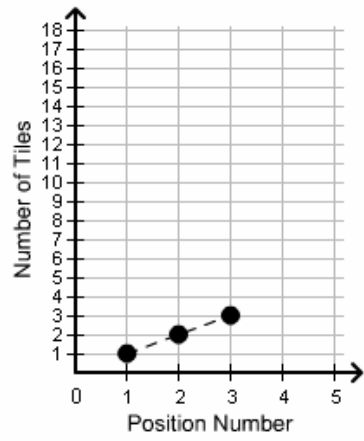
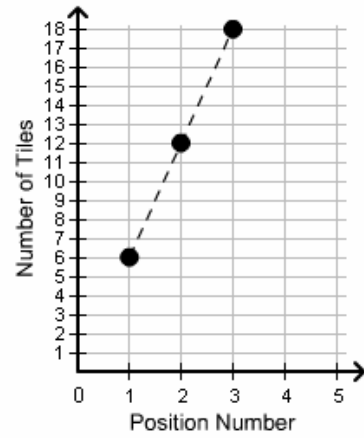
The "Linear Growing Patterns Representations" page can be used as an answer sheet.

#### **Additional Suggestions**

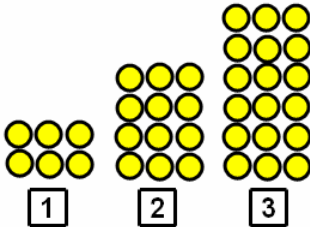
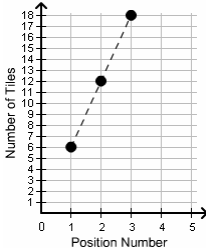
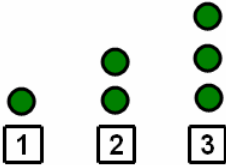
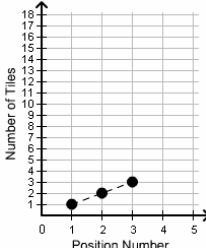
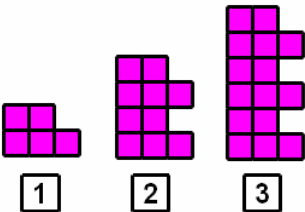
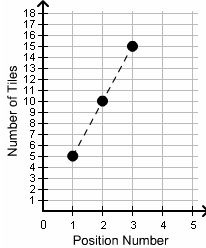
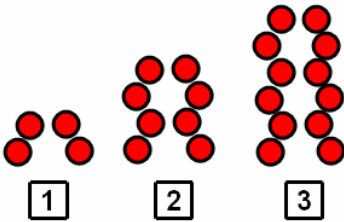
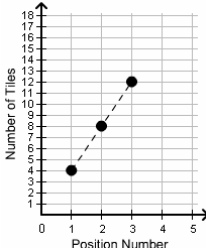
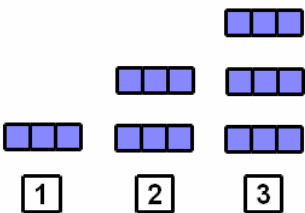
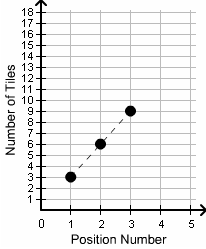
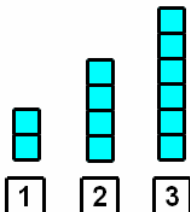
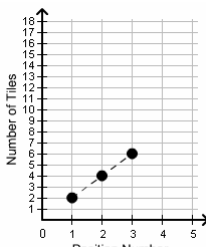
- 1) Roll the Picture and Rule cubes. If they represent the same linear growing pattern, find its graphical representation on the Graph cube. If they do not represent the same pattern, reason which one will have the steepest trend line when graphed. Confirm or deny your answer by looking at the graphs on the answer sheet.
- 2) Roll one of the cubes. Find the other two representations of the pattern on the remaining cubes.
- 3) Print the answer sheet on card stock. Cut this into 18 cards then mix up the cards. Now, rearrange the cards into groups of three so that each group has three different representations of the same linear growing pattern.
- 4) Use the cards for any two of the representations (e.g., use all the Rule and Graph cards). Turn the cards face down on a table. Player A turns over two cards. If the cards have representations for the same pattern, Player A keeps the cards and plays again. Otherwise, Player A turns the cards over and Player B takes a turn. Play continues until all matches are found.







# Linear Growing Patterns Representations

|   | Pictorial Representation  | Pattern Rule Representation                | Graphical Representation  |
|---|---|--|---|
| A |    | Number of Tiles<br>= (Position Number) x 6 |    |
| B |    | Number of Tiles<br>= (Position Number) x 1 |    |
| C |   | Number of Tiles<br>= (Position Number) x 5 |   |
| D |  | Number of Tiles<br>= (Position Number) x 4 |  |
| E |  | Number of Tiles<br>= (Position Number) x 3 |  |
| F |  | Number of Tiles<br>= (Position Number) x 2 |  |